Abstract of the Disclosure

A displacement sensor for sensing the relative position of an object to be detected is provided. The displacement sensor includes a core body having a core center portion and core end portions that are continuously formed on both sides of the core center portion. Magnetizing coils and detecting coils are wound around the core body such that they are lined on an axis of the core body. One of the magnetizing coils and detecting coils is placed at the core center portion while the other ones of the magnetizing coils and detecting coils are placed at the core end portions in the axial direction. The width of the core end portions in the direction perpendicular to the axial direction of the core body is substantially the same and is smaller than the width of the core center portion.